



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/599,879

10/12/2006

Hardi Voelkel

WEBE-0021

5955

23550 7590 12/18/2009
HOFFMAN WARNICK LLC
75 STATE STREET
14TH FLOOR
ALBANY, NY 12207

EXAMINER

VALONE, THOMAS F

ART UNIT

PAPER NUMBER

2831

NOTIFICATION DATE

DELIVERY MODE

12/18/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOCommunications@hoffmanwarnick.com

Office Action Summary	Application No. 10/599,879	Applicant(s) VOELKEL ET AL.	
	Examiner THOMAS F. VALONE	Art Unit 2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 20, 36 are objected to because of the following informalities: The term “discreet” meaning “mild” is misspelled and should be replaced by a word meaning “distinct”, such as - - discrete - - as best understood. Appropriate correction is required.

Specification

2. The disclosure is objected to because of the following informalities: Though the term “discreet” in “discreet manner” on p. 6, par. 2 is spelled correctly, the term “discreet” as used in the rest of the instant disclosure is misspelled and should be replaced by a word meaning distinct, such as - - discrete - -, as best understood.

Appropriate correction is required on pages 2, 8, 10, 14, and 15 (ref. Random House College Dictionary, 1975).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 20 and by dependence claim 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not understood how the coupling capacitance, which the applicant has defined as “at least one coupling electrode forming the coupling capacitances” in light of the instant specification (p. 5, 3rd par.) can be at least partly constructed as discrete capacitors, as claimed, when the applicant prohibits this possible embodiment by

Art Unit: 2831

insisting that “the coupling capacitances 22, 32, 42 must not necessarily be discrete capacitors” (instant specification, p. 14, line 1-2), *where spelling corrections are underlined, for better understanding.*

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 19-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lambert (6,724,324) in view of Kawahara (6,462,563) and Eichelberger (4,290,052).

Regarding claims 19, 27, 28, 35, 40, Lambert teaches a probe device for a capacitive position finding of a target object in which capacitive electrodes are arranged over a detection area (Fig. 1) on one side of the support as in claim 28. Lambert further teaches that the probe voltages are dependent on the spacing of the target object from a given probe and are evaluated for determining the position of the object (detect proximity, col. 4, line 23-45). Lambert uses a supply voltage across the coupling capacitor (22, Fig. 1) and clearly forms capacitive voltage dividers (22 divided with 118 using output 112, Fig. 13, and 22 divided with 102, Fig. 13) with the probe voltages as mean voltages (4 Vrms, col. 13, line 65) being formed through the coupling capacitance and the capacitance of the probe to the environmental object position change to be detected respectively (22, 34, Fig. 1 and 5). Lambert also teaches that the probe voltages are processed with an evaluating device (26, Fig. 1 and col. 4, line 43-45) to an

Art Unit: 2831

output signal (30, Fig. 1) which is a measure of the position of the target object to be found (Fig. 17 and col. 10, line 53-65) as in claims 19, 35, 40. Lambert teaches the plurality of capacitive probes are distributed on one side of a printed circuit board made of a dielectric over the detection area (Fig. 12) as in claims 27, 28, 40.

Lambert does not explicitly teach the coupling capacitance being uninfluenced by the target nor a plurality of capacitive probes though it can be broadly interpreted that the plurality of electrodes constitute a plurality of probes.

Kawahara from the same field of endeavor clearly teaches a plurality of capacitive probes (Xx, Yy, Fig. 1B, and Fig. 2C) as well as a capacitive voltage divider (col. 6, line 27).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included a plurality of capacitive probes as taught by Kawahara in the capacitive position device of Lambert for the benefit of obtaining a fingerprint pattern from the variation values of the probes as suggested by Kawahara (col. 3, line 15-20).

Lambert as modified by Kawahara (L-K) does not explicitly teach the coupling capacitance being uninfluenced by the target, even though L-K has a "fixed part of the capacitance" (Lambert, col. 12, line 40-50) due to an insulative layer (Lambert, dielectric, Fig. 1).

Eichelberger from the same field of endeavor teaches the coupling capacitance (Ctr, Fig. 1b) is uninfluenced by the target as in claims 19, 35, and 40, since it is a function only of the area of the electrode 18b, the thickness T and the dielectric constant

Art Unit: 2831

of the insulative layer 16 (col. 3, line 60-68), which is the same as applicant's coupling layer (72, instant disclosure, p. 17, and Fig. 6,7). Eichelberger further teaches a capacitive voltage divider (col. 6, line 25-30) which includes the coupling capacitance as in L-K.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the L-K coupling capacitance uninfluenced by the target as taught by Eichelberger for the benefit of reduction in the signal present due to a fixed capacitance in the voltage divider, as suggested by L-K (Lambert, col. 12, line 40-50).

7. Regarding claim 20, Lambert does not teach the coupling capacitor as discrete capacitors, although his two capacitor electrode plates (12, 14, Fig. 1) can be viewed as a discrete capacitor, to one of ordinary skill.

Kawahara teaches the coupling capacitor as discrete capacitors (Ctr, col. 3, line 65 and Fig. 1b).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included discrete capacitors as taught by Kawahara as coupling capacitors in the Lambert capacitive position object finder for the benefit of being fabricated on the opposite sides of a dielectric layer as suggested by Kawahara (col. 4, line 64).

8. Regarding claims 21, 39, Lambert teaches a reference probe construction as the grounded electrode probe "held at ground potential" (70, Fig. 4) which serves as the reference potential for the probe, broadly interpreted as in claims 21, 39.

Art Unit: 2831

9. Regarding claim 22, Lambert includes a three-dimensional detection area as clearly seen in Figures 1 and 2. Lambert distributes the probes over the same three-dimensional detection area.

10. Regarding claim 23, Lambert teaches an inverter function being applied to each probe by the evaluating device and an integration function (col. 5, line 60-65) which is equivalent to a discrete rectifier since only a positive value is the output, as is well known to one of ordinary skill.

11. Regarding claims 24-26, Lambert teaches a two-channel input microprocessor (AD630, Fig. 14b) as in claim 24, which functions as a multiplexer with the two inputs as in claim 25, as is well known to one of ordinary skill. Lambert also teaches an analog pre-processor amplifier (col. 11, line 40-50 and 116, Fig. 13A) as in claim 26.

12. Regarding claim 29, Lambert teaches support as a printed circuit board (col. 11, line 1-40).

13. Regarding claim 30, the Examiner takes Official Notice that a flexible circuit board is a common off-the-shelf option well known in the prior art for phenolic or fiberglass circuit boards.

14. Regarding claim 31, Lambert teaches that at least parts of the electronics are placed on the support (col. 10, line 5-20, 30-45).

15. Regarding claim 32, Lambert does not teach a continuous metallic layer.

Kawahara teaches a continuous metallic layer for the potential surface (x,1 for example, Fig. 1B).

Art Unit: 2831

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included a Kawahara continuous metallic layer for the unitary potential surface electrode in Lambert's capacitive position finder for the benefit of applying a predetermined voltage uniformly as suggested by Kawahara (col. 4, line 20-30).

16. Regarding claims 33, 34, Lambert teaches another metal layer held at ground potential which is regarded as a shielding electrode to one of ordinary skill (col. 5, line 45-60) thus reducing edge effects, as taught by Lambert (front end shield, Fig. 14d) as in claim 33, with receiving circuit components on the support as in claim 34 (Fig. 12).

17. Regarding claim 36, Lambert teaches the method may be applied to a discrete object such as a person, foreign object, or human body part (col. 10, line 35-40).

18. Regarding claim 37, Lambert further teaches the coupling capacitance is supplied with the same supply voltage at a given frequency (10-100 kHz, col. 4, line 15-20).

19. Regarding claim 38, Lambert teaches quotients for evaluating probe signals (col. 6, 7, 8).

Response to Arguments

20. Applicant's arguments filed 10/7/09 have been fully considered but they are not persuasive.

21. Regarding the argument that the coupling capacitance stays the same in the applicant's invention as compared to the Lambert reference, this feature is addressed in the new grounds for rejection.

Art Unit: 2831

22. Regarding the argument that the applicant's probe arrangement can be implemented with discrete capacitances, implying that this is not the case with the references cited, it is noted that this is also a claimed limitation (claim 20), both of which seem to be in direct contradiction to the disclosed invention: e.g., "The coupling capacitances 22, 32, 42 must not necessarily be *discreet* capacitors" (instant disclosure, p. 14, line 1-2) understood to mean "distinct" and not "mild mannered".

23. Regarding the argument that Lambert's sensor is necessarily based on the change of coupling capacitance, it is noted that Lambert identifies at least a fixed portion of the coupling capacitance, as noted in the present Office Action, which also includes new grounds of obviousness rejection.

24. As to the argument concerning "middle voltages" it is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lee teaches a voltage divider in capacitance measurement.

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to THOMAS F. VALONE whose telephone number is (571)272-8896. The examiner can normally be reached on Tu-W-Th, 10:30-7:00.

Art Unit: 2831

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas F Valone/
Examiner, Art Unit 2831

Thomas Valone
Patent Examiner
Art Unit 2831
571-272-8896